Conseil de la conservation
du Nouveau-Brunswick

Conservation Council
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THE CONSERVER HOUSE PROJECT
of the
CONSERVATION COUNCIL OF NEW BRUNSWICK

Fredericton, N.B.
December, 1984

C.R.E.D.A. PROJECT 2001 N. B. 2

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Canada/New Brunswick Conservation and Renewable Energy Demonstration Program

The Conservation and Renewable Energy Demonstration Program Program is administered in New Brunswick by the Energy Secretariat and managed jointly with Energy, Mines and Resources Canada. The Program is designed to help demonstrate promising conservation and renewable energy technologies, to develop public awareness and understanding of these technologies, and to create employment in new or existing industries.

Through over 100 demonstration projects in New Brunswick, a wide variety of conservation and renewable energy technologies have proven to be technically sound and economically attractive. These demonstration projects should now provide a catalyst for commercialization and lead to widespread adoption of many of these proven technologies.

This final report is based on a project which was financially supported by the Energy Demonstration Program. For further information on other demonstration projects funded in New Brunswick under this program, contact:

Conservation & Renewable
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Programme Canada/Nouveau-Brunswick de démonstration des économies d'énergie et des énergies renouvelables

Le Programme de démonstration des économies d'énergie et des énergies renouvelables est administré au Nouveau-Brunswick par le Secrétariat à l'énergie, en collaboration avec Energie, Mines et Ressources Canada. Ce programme tente d'abord de vérifier la fiabilité des techniques de conservation d'énergie, d'accroître la sensibilité du public envers ces techniques et, enfin, de favoriser la création d'emplois au sein des industries nouvelles ou déjà existantes.

Un grand nombre de projets de démonstration se sont avérés à la fois techniquement réalisables et économiquement attrayants.

Le succès ainsi rencontré encourage la commercialisation des procédés les plus accessibles. Cela entraînerait certes l'adoption d'un grand nombre de ces techniques par les propriétaires de domiciles et par l'industrie privée.

Ce rapport final est basé sur un projet qui a reçu une aide financière du Programme de démonstration. Pour de plus amples renseignements, communiquez avec la:

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D I S C L A I M E R

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D E N I D E R E S P O N S A B I L I T E

Ce rapport, financé conjointment par le Secrétariat à l'énergie du Nouveau-Brunswick et Energie, Mines et Ressources Canada, est publié à titre de service public. Les gouvernements fédéral et provinciaux n'assurent aucunement l'exactitude du contenu, l'efficacité des appareils et des procédés et, enfin, les économies que préconise le rapport. L'utilisation de ces systèmes de conservation d'énergie ne doit, à aucun moment, empiéter sur les droits d'autrui.

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From this visionary beginning came the concrete proposal for a project which received energetic support from Energy, Mines and Resources Canada, and in particular, the New Brunswick Energy Secretariat. Nor would the project have been so expediently implemented without the interest of the New Brunswick Department of Supply and Services which leased the building at 180 St. John Street to the Conservation Council for the period of the Conserver House contract.

To all the individuals involved in the Conserver House project from 1979 to 1984, both as committed volunteers, professionals in the field of conservation and renewable energy, as as funding agencies, the Board of Directors of the Conservation Council of New Brunswick extends a sincere "thank you". It is just this level of concern for our present energy situation which will lead the movement towards a sustainable people-oriented future.

I. EXECUTIVE SUMMARY

Conserver House is an information and demonstration center for residential energy conservation and renewable energy technologies sponsored by the Conservation Council of New Brunswick. The sponsoring organization is a non-profit, non-governmental environmental advocacy group, with a major emphasis in its work placed on the promotion of environmentally sound and sustainable energy policies.

Conserver House opened officially in November, 1981, and operated with two full-time staff members until March 31, 1984, as an information center for the public.

While it took most of the contract time to fully develop the information transfer component of the demonstration, this task was accomplished with a high level of success. In many cases, programs had to be developed from scratch, due to the fact that little existed in the form of publicly-oriented information or delivery mechanisms at the time Conserver House opened. This reality was, of course, the prime motivation for the project in the first place. Nonetheless, time and money was required to eventually establish Conserver House as an effective and reliable source of information in the area of residential energy conservation.

Promotion of the services of the House was achieved through active consultation and co-operation with the provincial media, both print and electronic. As well, mailing lists were developed from immediate contact with individuals interested in the project and the resources available there. This list was used in semi-annual mail-outs of information updates and announcements of programs.

Visitors at Conserver House averaged approximately 5000 per year, including participants in workshops, seminars and open houses. As well, telephone inquiries were frequent and books were borrowed from the lending library on a consistent basis. The impact on the community of this level of service can be witnessed in the significantly increased availability of conservation products in local hardware stores, and the seeming proliferation of "conservation companies", presumably a response to market demand. This, in turn, has required that Conserver House incorporate a very active consumer education component in its work, in order to assist the homeowner in making wise and considered decisions about what should be done in individual houses, and how it should be carried out.

Results in terms of actual energy savings from the project are

impossible to assess without the benefit of a proper survey. However, the retrofit of Conserver House itself was a measured success. Energy requirements were reduced by 78% in the 100 year old woodframed structure. Actual heating costs were cut by 90%, due to the conversion of the oil system to a high-efficiency, clean-burning wood furnace. Paybacks for most of the retrofit work are in the three to five year range. This should be typical of other structures of similar size and age.

The non-governmental, non-profit sponsorship of the project, contributed significantly to the credibility and reliability of the information disseminated from Conserver House. With no product or program to promote, and from an unbiased standpoint, staff were able to guide people through the maze of incentives and programs designed to influence choices. This approach was constantly applauded and considered necessary by the public served at the House.

The benefits of on-going funding for an information transfer project such as Conserver House cannot be overstated. The establishment of such a center in a community creates a high level of expectancy in the community for the continuous availability of information and assistance. Terminating an information oriented service only serves to prevent the harder-to-reach audiences from taking advantage of the service, since the time frame involved in reaching that constituency is much longer. These contacts must be deliberately fostered, drawing on the experiences and expertise gleaned over a period of professional and practical development. Therefore, there are serious gaps in the community in terms of those who have and have not been reached or influenced. Long-term planning made possible by guaranteed funding is the most effective means of dealing with this situation.

Being the only demonstration house east of Toronto, and the only one in the country providing bilingual services. Conserver House is a unique Atlantic and national resource and deserves continuous financial support.

Janice Brown
Project Manager
Exec. Dir.
Conservation Council of New Brunswick

Sommaire-recommandations

La Maison de l'économe est un centre d'information et de démonstration des technologies d'économie de l'énergie et d'utilisation des énergies renouvelables dans le secteur résidentiel parrainé par le Conseil de la Conservation du Nouveau-Brunswick, une organisation non gouvernementale et à but non lucratif qui s'occupe d'offrir des conseils sur l'environnement et qui s'intéresse particulièrement à la promotion des principes énergétiques avises et en harmonie avec l'environnement.

La Maison de l'économe a ouvert ses portes officiellement en novembre 1981 et, employant deux personnes à temps plein jusqu'au 31 mars 1984, agit maintenant comme centre d'information pour le public.

Bien qu'il ait été nécessaire d' utiliser presque toute la durée du contrat pour organiser pleinement l'aspect information de cette démonstration, cette tâche a eté réalisée avec un très grand succès. Dans bien des cas, des programmes ont dû être élaborés à partir de rien, puisqu'il existait très peu d'information ou de mecanisme de diffusion à l'intention du public au moment de l'ouverture de la Maison de l'économe. C'était là, évidemment la raison d'être primondiale de ce projet. Néanmoins, il fallut consacrer temps et argent pour réussir à faire de la Maison de l'économe une source d'information efficace et fiable en matière d'économie de l'énergie dans le secteur résidentiel.

La promotion des services de la Maison de l'économe s'est faite au moyen d'une consultation et d'une collaboration active avec les media de la province, tant écrits qu'électroniques. En outre, des listes d'adresses ont pu être élaborées au moyen de contacts directs avec les personnes intéressées aux projets ainsi qu'aux ressources offertes. Cette liste a été utilisée pour envoyer des mises à jour et des annonces de programmes sur une base semestrielle.

Les visiteurs de la Maison de l'économe se chiffrent à environ 5000 par année, y compris les participants aux ateliers, colloques et visites sur les lieus. De plus, les appels téléphoniques etaient fréquents et les emprunts de livres de la bibliothèque étaient réguliers. On a pu constater l'influence de ce genre de service sur la population par le nombre de plus en plus grand de produits permettant des économies d'énergie qu'on peut maintenant trouver dans les quincailleries locales et la prolifération apparente des "entreprises axées sur les économies d'énergie" répondant sans doute à la demande du marché. La Maison de l'économe a, en retour, été obligée de mettre sur pied un programme très actif d'éducation du consommateur afin d'aider les propriétaires à prendre des décisions avisées et pertinentes en ce qui a trait aux travaux à exécuter dans leur maison et à la bonne façon de le faire.

Il serait impossible d'évaluer, sans procéder à une étude appropriée, les résultats réels du projet en termes d'économies d'énergie réelles. Cependant, on peut mesurer le succès du rattrapage de la Maison de l'économe. Les besoins énergétiques ont été réduits de 78% dans cette vieille structure de bois comptant déjà 100 ans d'existence. Les coûts du chauffage ont été réduits de 90%, grâce à la conversion de l'appareil de chauffage au mazout en un système de chauffage au bois à haut rendement énergétique et à combustion totale. Le recouvrement de la plus grande partie des travaux de rattrapage est de trois à cinq ans. C'est le recouvrement moyen qu'on devrait normalement obtenir d'une maison de cette dimension comptant à peu près le même nombre d'années.

Le fait que le projet ait été mené par une organisation non gouvernementale et à but non lucratif a grandement contribué à la crédibilité et à la fiabilité des renseignements diffusés par la Maison de l'économe. Comme le projet ne contribuait à promouvoir aucun produit ni aucun programme, et grâce à son impartialité, le personnel a été en mesure de guider les personnes intéressées à travers la grande variété de stimulants et des programmes conçus pour influencer leurs choix. Cette façon de procéder a continuellement entraîné les éloges du public, qui en soulignait d'ailleurs la nécessité.

On ne peut sous-estimer les avantages de la survie d'un projet de transfert de l'information comme la Maison de l'économe. L'établissement d'un centre semblable au sein d'une collectivité ne va pas sans une attente élevée à l'égard de la disponibilité continuelle de ce genre d'information et d'assistance. l'interruption de ce genre de service d'information ne peut qu'empêcher les éléments de la population les plus difficiles à atteindre de tirer profit de ce service, étant donné qu'il faut plus de temps pour atteindre ces personnes. Ces contacts doivent être encouragés de façon délibérée, en mettant à profit toute l'expérience qui a été acquise au cours de la période de développement professionnelle et technique. Par conséquent, il existe d'importants écarts au sein de la collectivité entre ceux qui ont été atteints et touchés et ceux qui ne l'ont pas été. Seule une planification à long terme rendue possible par une garantie de financement peut permettre de faire face à cette situation.

Etant la seule maison de démonstration à l'est de Toronto, et la seule au pays offrant des services bilingues, la Maison de l'économe est une ressource unique en son genre dans les provinces de l'Atlantique et dans tout le Canada et, à ce titre, métire vraiment un appui financier continu.

Janice Brown
gestionnaire du projet

II. INTRODUCTION & BACKGROUND

At the close of the contract for Conserver House, it is useful to reflect on the motivation of the Conservation Council in taking on the project, and to assess the goals and objectives established at the outset.

The Conservation Council had long been active in the area of energy conservation advocacy, promoting this as a responsible alternative to energy waste and polluting or environmentally hazardous energy production developments. It was recognized, however, that to a great extent the potential for conservation in Canada was seen by many as rhetoric, with little to demonstrate the claims, and much less information available to assist implementation, particularly for the home owner. On this basis, the Conservation Council determined to take affirmative action, and on a relative scale, address those two issues, at least in the Fredericton region.

With financial assistance under the Conservation Renewable Energy Demonstration Agreement (CREDA), an extensive retrofit of the building at 180 St. John Street in Fredericton was proposed, incorporating a demonstration component. Initial planning began in 1980 when the CREDA contract was signed. Running concurrently with the retrofit was the development of an intensive information transfer program, directed towards encouraging homeowners to take advantage of this new resource in the community. It was intended that the techniques and technologies incorporated in Conserver House would eventually be replicated, with the assistance of information staff at the House.

The specific objectives met by the information transfer project were three: First, basic information was provided on the potential for conservation in the home, along with practical approaches to implementation. Second, it was found that builders and tradespeople were (and are) not familiar with the new construction techniques for low energy homes or super-insulated retrofits, so many programs were directed towards answering that need. Third, where the original problem was a lack of information, information overload fast became a problem, with consumers being bombarded with conflicting and confusing messages from commercial and institutional agencies. Conserver House therefore took on the role of consumer advocate, instructing people in how to deal with energy contractors, what incentive programs were most applicable to their particular situation and what type of conservation products are the best investment. This evolution was gradual and not generally deliberate. Rather it was a sensitive response by a non-governmental agency close to the community to a very real need in that community. This illustrates one of the significant advantages of having a

non-governmental organization operate such an information center.

The demonstration aspect of the project was seen to be essential, and this has proven to be the case. While information programs are carried out through storefront facilities, the benefits of having a physical example of the concepts being promoted cannot be overstated. Not only does it ease the task of disseminating technical details, it lends a credibility to the information that only a demonstrated success story can provide.

An evaluation of the level of success of Conserver House, based on these objectives, concludes that the project was an unqualified success. The following sections will provide details of the programs implemented by Conserver House, and the conclusions and recommendations of the staff will serve as a basis from which an extension of this project or replication in other areas should be considered.

III. INFORMATION TRANSFER ACTIVITIES

From the beginning of the planning stages and onward, the information transfer aspects of Conserver House were in continuous evolution, transformed as a result of the ongoing experiences (successes and frustrations) of the project.

As construction on the house started, media and public interest was high. There was also some demand from provincial housing-related organizations for guest speakers (for which a slide show was prepared). At this point though, the interest was directed towards the House itself and what technologies would be demonstrated. Many Open Houses were held during this time showing the transformation/renovation of the house.

The Information Transfer Program got off the ground with the official opening of Conserver House, November 21st, 1981. Prior to the opening, bilingual displays were installed throughout the House and a 5-panel bilingual brochure listing the services offered by the project was printed. By spring, the staff was ready to start an active seminar/film night series which was advertised through a mail-out and by paid advertising in the Daily Gleaner, a local newspaper.

To establish a solid reputation, a major conference on energy auditing was presented in Fredericton, in conjunction with the first national meeting of energy information centres to set up a network between these centres. These sessions were quickly followed by conferences on low energy house construction and super-insulated retrofitting.

Hands-on workshops were then tried as summer approached, on bicycle tune-ups, building a solar wood dryer and building a solar domestic hot water system. The last was done in conjunction with National Sun Day, whose promotion in the province was being handled by the information officer of Conserver House. Along with quite a bit of media coverage throughout New Brunswick, 9 open houses were held by individuals with innovative solar energy installations.

During the summer of 1982, the Conserver House library was indexed and the 1,000 books became available for loan to visitors. By now, two-thirds of the visitors to Conserver House were coming in for specific information to help them deal with their homes, the rest coming primarily to see Conserver House and to get some general information. To help deal with the demand on staff time, a series of Conserver House factsheets was prepared and printed and a collection of factsheets from Ecology House in Toronto and the Ministry of Housing in Ontario, just printed, was added to large selection of handouts already available.

Conserver House no longer required active promotion in Fredericton, as indicated by the steady flow of visitors. Since the staff had developed effective seminars on energy conservation and a large and useful collection of resource material, efforts were made to increase the scope of the project in the province, again offering as many services as possible in both official languages. A large travelling display on energy conservation and Conserver House was finished and put on the road in the fall, appearing in shopping malls, staffed and unstaffed, at Home Shows and energy conferences.

Many useful films and sound/slide shows were obtained in preparation for our Fall Seminars. A questionnaire was mailed to some two hundred building supply and hardware stores in New Brunswick. This was to facilitate the compilation of an energy products directory by locating good but hard-to find energy products in other areas of the province. Unfortunately the response wasn't great enough to make the directory feasible.

A standardized presentation on energy conservation in the home was developed, accompanied by the collected resource material and hands-on displays, which was to be given in twenty communities in the province. At the same time, a presentation on government energy programs was being held through New Brunswick by an association of provincial and federal agencies. Both seminar series met with little success that fall despite good media coverage, so both programs were dropped and re-evaluated.

By January 1983, Conserver House was adopting a greater training role. The information staff started presenting low-energy house construction and retrofitting techniques to each construction carpentry class at the Fredericton Community College. The staff trained a weatherization crew for an extensive air-sealing project in Halifax. Conserver House also sponsored a Consumer Protection Project where three trained workers visited homes in the Fredericton area, did a simple audit, and provided a list of recommendations. The project workers were also responsible for compiling and writing an energy products and an energy services guide for Fredericton under the supervision of staff. These guides proved a more useful and informative format than the original provincial energy products directory concept. This successful project can now be easily repeated in other centres of the province using the text and format already developed.

Outreach and promotion was also encouraged by researching the Atlantic section of a national energy product manufacturers and services catalogue. Most organizations or businesses related to energy in the four Atlantic Provinces were contacted by phone, a resource person found and an exchange of information effected between them and Conserver House.

Some energy articles were written and submitted to local

newspapers for their home supplements and to be used as fillers, replacing the poor energy information usually provided. In conjunction with Conserver House's usual seminars and workshops, regular weekly interviews on the two radio stations and many TV news spots increased the Fredericton population's awareness of the House activities and services. Media interest in Conserver House reached the point where the information staff became media resource people on energy issues. To touch a different cross-section of residents in Fredericton, Conserver House also offered some night courses on energy topics through the Community College and University of New Brunswick. Neither was as successful as when publicized through Conserver House.

Tours were never really promoted but staff was frequently asked to provide tours of the House, in French as often as in English. Some clubs and groups used Conserver House for their general meetings during the evenings, followed by a tour, usually taking two to three hours, a mutually satisfactory arrangement.

During the project, the staff were continually experiencing professional upgrading, sometimes in communication and information transfer skills but particularly in technical knowledge through trade conferences and seminars. They became able to respond properly to an incredibly wide range of questions that fall under Conserver House's responsibility. The visitors were rarely interested in contacting other organizations for information as well but rather preferred a one-stop resource that could offer specific recommendations and comments on energy conservation techniques, products, and services found in the community. Their confidence in the reliability of the information was increased by the fact that the technologies discussed could be seen working, with their qualities and faults visible, at Conserver House itself.

From the conception of the project, most energy-related organizations in the province were involved in the planning of Conserver House through an Advisory Board. Once the project got underway, the direct involvement of those organizations decreased, but they were kept aware of Conserver House's activities. Networking was mostly accomplished during trade seminars. As familiarity and positive feedback increased, more and more referrals were made between Conserver House and the other groups, such as: The Research and Productivity Council (Fredericton), the New Brunswick Housing Corporation, the New Brunswick Energy Secretariat, the Conservation and Renewable Energy Office (Dieppe, N.B.), N.B. Power, the Canadian Home Insulation Program, the Canadian Mortgage and Housing Corporation, the University of New Brunswick.

IV. OBSERVATIONS

A. INFORMATION TRANSFER ACTIVITIES OF CONSERVER HOUSE 80-84

1. One-on-One Counselling

- Biggest service of Conserver House, most demanded by public. (Ultimately, probably everyone who used information from Conserver House at some point directly contacted staff.)
- Most effective information transfer (effective in the sense that this level is necessary for the work to be undertaken properly) since it is personalized. It is an opportunity to erase any doubts the homeowner might have the information missing for making a decision.
- Appropriate to New Brunswick. Traditionally, information that is accepted and trusted is provided through conversation, not diffuse messages.
- Good training required. Staff must always be informed since all levels of knowledge are required by the public.
- Encourages that recommendations are followed or work is undertaken since the public has the security of seeing the staff again whenever (if any) difficulties arise.
- Assures much higher quality information transfer activities since staff became aware of concerns, misconceptions, current problems of the public. The activities were geared to respond to the public's needs.

2. Homeowner Problems

- Requires at least two staff members to provide different personalities and different experience to adjust to and interact with different audiences.
- Involves many man-hours (labour intensive). This was reduced somewhat by factsheets/lending library/workshops and the displays/self-guided tour.
- Difficult for staff to develop new programs or projects when constantly being interrupted to deal with public.

3. Seminars/Workshops/Film nights

Seminars

- Important in upgrading professionals in the province
- Increases networking
- Increases public awareness of resources or skills in N.B. through media promotion
- Involved both out of province professionals and local expertise to provide regional perspective; very successful format
- Relatively time consuming; and requires funds for materials, advertising, mail-out and rental; unlikely to be self-financing

but useful in attracting new clientele
- Increases/improves the organizations reputations immensely, which leads to support from community, media and related organizations through personal referrals (the best advertising)
- Conserver House had attendance from 30 to 150 professionals at these events.

Workshops

- Over 35 workshops over 3 years
    - with factsheets/hand-out materials
    - with books from library
    - with audio visual materials
- Specialized information, opportunity to provide more detail (than through one-on-one) for interested public
- Opportunity to bring in other resource people
- Attracts different type of people to the House than the regular visitors
- Requires little preparation time for knowledgeable staff.
- Low cost other than publicity (through posters; interviews on TV; radio; P.S.A.'s ; ads; mail-outs to guestlist) and has the potential to raise funds
- Complex topics (such as Low Energy House Construction or Greenhouse Management) can be presented as a series or a course
- In Fredericton, an average audience would be 15 people, (perfect since the presentations are less effective with more than 20 people)

Film nights

- Easy to prepare although choice of films limited
- Eager audiences quite different from usual visitors. Audience hoped for was general since films are introductory by their nature, but unfortunately the audiences consistently showing up were very technical. No way to satisfy this demand except by developing useful videotape material which is more adaptable, upgradable by staff
- Not enough films available to prepare many shows
- Average audiences of 12 people

4. Guest Speakers

- Consistently outside of Fredericton, occasionally outside of the province. This is probably the easiest way (for the cost) to increase exposure of Conserver House outside of Fredericton, other than through media activities
- Promotes energy conservation to groups who aren't familiar with any resources available to them
- Always done along with films/slide shows and assorted factsheets, floor models and products on hand

- Usual topics:
    - "Conserver House Project" (mostly given the first year)
    - "Energy Conservation in the Home" (last two years)
- Unpromoted and under-utilized: audience of about 100 people in 20 presentations: should be thoroughly promoted.
- Time consuming because of travel
- Speaking skills involved are easily acquired; no special training is required of the staff, but it is imperative that they be good speakers.
- Conserver House experience shows that whatever the topic or the audience, the question period usually gets back to what can be done in their own particular houses. This shows the basic need for individualized advice or personal contact to get people to undertake conservation measures

5. Training

- Lack of adequate training in energy for tradesmen and lay persons apparent
- Definite need for greater energy awareness among hardware store staff, contractors, community college graduates
- Great need for a retrofit manual
- Training programs by a group with limited resources would be restricted to upgrading the skills of individuals who already have a construction/carpentry background. Training done by Conserver House has been to this general group, mostly on super-insulated retrofitting, low energy design and construction, energy auditing and air sealing.
- Conserver House or other groups could easily take on a much larger role in N.B. to fill the present gap.
- Necessitates a high level of research and experience, keeps the staff involved in maintaining, upgrading their skills or expertise
- Definite potential for training videotapes, to be used in classrooms or on TV. This is probably the best medium to pass on the information involved
- Training could become self-financing, but if charging full costs, it would require high standards of instruction to satisfy the trainees

6. Tours

- Good use of staff time since a large group is served at a time. Conserver House tours have from 6 to 20 people, lasting from 30 minutes to 4 hours, on the average about 2 hours
- Since the beginning of the project, there have been approximately 60 tours - 900 people
- Service is underused since on a demand basis; did not approach groups to push this service, staff time being limited; effort was put into workshops and promotion through media instead;
- Tours are the service that was the most often requested in

French
- Require good communication skills to maintain everyone's interest during a tour (since there are many distractions in the House.) A good tour brings on a lot of questions; a boring one, none.
- Since tours involve a large group with varying interests, not as much detailed or specific information is passed on. Tours have a more general, introductory nature than workshops or one-to-one consulting. Tours mostly give general ideas and motivate the visitor to conserve energy but a follow-up workshop or counselling is still necessary
- Age groups: Information on tours at Conserver House is adult-oriented. Difficult to interest groups aged 17 or younger. Possible to adapt the displays and information for younger school groups but considering limitations in budget and staff time, other activities have a much more direct impact in energy savings than catering to this potential market. It is definitely worthwhile to try to reach this group if the resources are available

7. Networking

- Networking with staff from other energy information/demonstration centres across Canada and in other countries is very important particularly for those involved in development of information transfer material and programs. There wasn't much available in this area when Conserver House started and so much time was spent developing material. Now many of the projects in Canada have matured and their experience can help:
  - avoid duplication of effort
  - avoid common mistakes
  - as a resource for questions
  - choose the most effective programs
  - by borrowing the successful material already developed
- Networking with regional (i.e. provincial) organizations involved in energy is important for similar reasons. Also, to assure questions are dealt with by the most appropriate organization
- Most important in maintaining good information, by discussions on energy topics with other groups

8. Research

- Part of all the services. Undertaken when the information available at the House was inadequate for the requirements of the homeowner on a special project
- Research involved finding technical information through libraries or contacts in Canada. This occurred often with questions on specific applications. (For example: potential

problems with differential expansion in a double wall; effective construction details for a pressure treated foundation; flammability of different insulation materials.
- Research also involved installing various products in Conserver House, noting difficulties and benefits
- Generally very time consuming, reinforcing the advantages of knowledgeable staff. Expensive for telephone calls since qualified resource people are often outside the province.

9. Promotion

- Most important activity once the project is set up with effective information/transfer materials and competent staff.
- Can only be done effectively when reputation is established with the community and the media
- Conserver House built up its own resource material and reputation, taking about two years to be fully recognized and accepted by the region. It is hard to see how this time could be shortened significantly. Following the establishment of Conserver House, promotion wasn't fully undertaken since the project only had six months of secured funding left.
- Promotion was done through:
    - 5 panel bilingual brochure: 6,000 copies have been handed out. Useful only to introduce the project, which happens mostly the first year.
    - Conserver House Poster: has a blank space for special announcements; good for announcing activities in other communities. Should be put up two weeks ahead of event.
    - City walking tour/city map: Free, so it's worth the effort. Draws mostly tourists.
    - Newsletter articles.
    - Articles supplied to newspapers/magazines: time consuming; little mention of Conserver House. Provides good information compared to the usual material printed.
    - Advertising in newspapers for open houses/special activities: very expensive. Somewhat effective if done twice, one week before and then a couple of days before the event.
    - Regular interviews on radio/TV: easy to get once established. Best promotion - reaches most people. Requires little time, no cost.
    - Public Service Announcements: Reminds the public about Conserver House regularly. Reinforces that the House is busy, active.
    - Several press releases for special activities: effective in promoting the particular activity, not the House specifically.
    - Travelling display in shopping malls/exhibitions: reasonably effective in reaching people if staffed and properly targetted if outside the base community. Expensive to develop, move around, maintain.

10. Information Transfer Materials

Factsheets

- In House: Important to provide only pertinent information. Problem with most written information is that it contains too much with too little that is relevant to the homeowner. It will not be read or followed up on if the information requires weeding out by the homeowner. Conserver House factsheets were written to provide the practical, "hands-on" advice required to undertake the suggestions in the factsheets. Not very costly to print, but is time consuming to write and paste up with relevant graphics. They have reduced a lot of the time spent by staff in one-on-one consulting, avoiding much of the repetition by listing the important points. They also establish the House as a true resource in the minds of the users. Topics chosen were those inadequately covered by existing factsheets.

From Other Sources

- Generally can be obtained free so are useful. Important to be selective since until recently (last 2 years) there have been factsheets distributed with erroneous information. Also important that some recommendations given orally are also seen in print to reassure of the reliability of the advice and to remind the recipient of the details they might forget.

Buying/Hiring Guides

- Conserver House produced a consumer's guide to energy products and retailers as well as an energy services guide, both for the Fredericton area.
- Very popular guides since they stick to practical information in actually finding and choosing cost-effective products in the store or in finding and hiring a contractor wisely.
- Most of the work involved in producing these was in writing the first version. Future editions would only require general revision and also a new survey of all the stores or contractors following the survey questionaire developed.
- These are probably the most useful information booklets that could be provided to homeowners, although much of their usefulness comes from the time consuming survey of the community.

Lending Library

- Indispensable service for an energy information centre. Conserver House has over 1,000 titles and 20 magazine subscriptions.
- In-depth collection (some 300-500 titles) is important for staff and students doing research, but for most users a collection of some 100 well-chosen books is adequate.
- Popular topics where books are a useful supplement to speaking with staff, are:
    - home electrical generation (water, wind, etc.)
    - low energy house construction
    - super insulated retrofit
    - energy education materials/projects
    - greenhousing/gardening
    - solar heat (such as construction details)
    - wood heat (such as chimney sweeping)
- Magazines were as important as the book library, providing current information to the staff who regularly handed out photocopies of pertinent information. These were often more useful than factsheets. Through their ads, product reviews, letters column, etc., magazines probably kept the staff more up-to-date than any other information source in house construction products and techniques.
- Books were particularly useful to those getting involved in major projects (such as house construction) who gain from staff's comments and guidelines but still require many details that are best communicated in print and required research.
- Library indexing under author, subject or title very rarely used. Most book selection for visitors is done by staff recommending appropriate or better books. Since the books are arranged by topic on the shelf, library users are comfortable in doing some shelf searching on their own, as well.
- If the indexing were computerized, (ideally included in the Phoenix System at U.N.B.) it would certainly be used more frequently.

Resource Files

- All materials/magazine articles/factsheets/company flyers/etc. were put into subject files which were often very useful in responding to the questions of the public. The staff also brought their own files which grew along with the project. Cost of this is very low but it requires good organization and has to be maintained, a never-ending chore.

Slide Shows/Films

- Both are expensive to purchase.
- Slide Shows: A collection of sound/slide shows was accumulated by Conserver House to cut down on staff time spent one-on-one discussing topics that are regularly touched on. In practice,

they were rarely used. Visitors weren't interested in sitting down to watch a 10 minute presentation if there was some way to talk to the staff.

- Films: Conserver House has 10 different films on energy, with three being very useful for presentations at general workshops or Open Houses:
  - Old House, New House: discusses Ecology House, introducing the concept and services provided by energy demonstration centres.
  - First Seal your House: short film on air sealing helps convince homeowners of the importance of air tightening.
  - How to Save Energy in Your Home: American film taking homeowner from beginning to end of a home energy strategy. Has some inaccuracies.

Displays In House

- Over two dozen bilingual displays are found in Conserver House. There are also cutaways of the walls and sample cross-sections of super insulated walls, and a collection of air-sealing and insulating products.

IV. OBSERVATIONS (cont'd)

B. DEMONSTRATED SAVINGS

The house stands as an example of what implementing conservation techniques and renewable energy technologies can do. Telling people that they can save a certain amount by doing a retrofit is much more believable if you are standing in a structure that bears witness to the fact. The amount saved will generally be less than calculated due to the difficulty of putting theory into practice, but if done properly, the projected savings can be dramatic, and therefore open to question. Being able to demonstrate a retrofit that came close to projection and to show the savings usually impresses even the most skeptical.

C. RENEWABLE SYSTEMS

Utilizing renewable energy systems also helps to de-mystify them. People who know nothing of solar collectors are amazed and impressed that the sun alone has created the hot water they can feel. The Jetstream wood heating system attracts people who have heard about it, want to see it in action and obtain an opinion on its capabilities. The price may deter them but the saving that can be realized by burning wood in such a system has a strong appeal. While neither of these systems may be suitable for every client, they can be used as a spring board to lead to more suitable solutions. They also benefit the staff who can speak from experience having used these systems.

D. TECHNICAL COMPONENT

1. The "House" as a Demonstration Tool

Conserver House acts as a demonstration center as well as an information center.

The first advantage in having an actual demonstration house is credibility. Conservation techniques in most cases have to be sold. All the facts, figures and appeals in the world don't seem to convince, no matter how logical. There is so much information available, much of it conflicting, that people are skeptical of all advice. In the particular case of conservation, the UFFI fiasco has made many people extremely wary of "official" advice. This reluctance can in many instances be overcome easily when the particular technique is shown in action, something a free-standing display can never seem to attain. If the information person appears to know what he/she is talking about and has a demonstration of the technique or product in the

context for which it was intended, and if it actually works with few or no adverse side effects. the visitor tends to conclude that perhaps the information available on the subject holds some truth. Skepticism is not limited by profession or social standing. Engineers will express skepticism, perhaps more than most, even when they have the facts and figures. The questions "Does it really work", "Is it really a good investment", are often asked. If a product or technique has shortcomings that are not insurmountable, they want to know in able to judge for themselves if it is worth the effort, risk and cost.

2: The "House" as a Retrofit

The Conserver House building was extensively and successfully retrofitted using a variety of techniques to maximize demonstration value. The retrofit included high levels of insulation, sealed vapour barriers, weatherstripping, window insulation, a solarium, a heat recovery ventilation system, and the installation of a Jetstream wood-fired furnace with associated thermal storage tank and heat exchangers. Also, a drain-back active solar system was installed for domestic hot water.

3. Consumer Protection

Having an actual house to try out different products or techniques allows the staff to attain first-hand knowledge of the application, suitability and benefits from a perspective very close to that which will be experienced by the people who are going to ask for those very details. Since so much of the information available consists of manufacturer claims, usually overly optimistic, and little testing has been done, application in a demonstration house in many cases is the only real life example that can be judged. Some products and techniques fall far short of their dramatic claims and investments in certain conservation products have often led to bad experiences due to dubious sales pitches.

4. Visual Re-enforcement

Many features of a demonstration house can be used as displays especially if small sections showing construction details are left uncovered or partially completed. Those who have no concept of how a house is put together often cannot grasp a concept from a good perspective drawing and/or explanation. It is a real time-saver to simply point to an area and explain how to treat it. A perfect example of this is the band-joist area that exists in every house. A small section in Conserver House was left unfinished in the basement and it has often facilitated quick, effective descriptions of how to seal, insulate and apply a vapour barrier to this area when attempts to describe or draw the application resulted only in blank stares of incomprehension.

Even a mock-up display area fails to illustrate as effectively.

Products such as caulking and weatherstripping can be shown in use. Again, simply pointing to a baseboard or window trim showing the caulking applied is much easier, graphic and understandable than trying to do the same thing using drawings, text or explanation. Accented by suitable graphics and text, the real life technique is easily expanded to encompass all the products or techniques applicable with their attendant advantages and disadvantages. The model serves as an excellent starting point, usually as a best case but sometimes as an indication of techniques to avoid.

V. COST/BENEFIT ANALYSIS

As stated in the introduction, the conventional measure of payback on investment in terms of energy saved is inappropriate in the case of Conserver House. Retrofitting costs will see a payback as a whole in just 6-7 years, based on 1982 oil prices and the cost of wood heating, and within 1 year in the case of some of the techniques implemented.

Operational costs, once the House had been set up, averaged around $90,000. per year, for an overall project budget of $350,000. This included salaries for two full-time staff persons, and administrative services, as well as educational program and publication costs, and maintenance of the building.

Only from testimonials of those who have visited the House or attended one of the educational programs can any degree of impact be ascertained, and this is difficult to quantify. What is obvious, however, is the fact that the initial capital investment and the subsequent development of resources and training of staff would become more cost effective and attractive the longer the project operates. It is a generally accepted tenet that a new enterprise requires five years to establish itself within the community, and to begin to get a return on investment. Applying this to Conserver House, it seems the project was aborted just at the point where staff and resources had developed to enable the most effective level of service to the community of Fredericton, and was in the best position to begin comprehensive outreach activities throughout the province. Certainly the continuation of an already established information center which encourages people to implement conservation techniques would be more effective than initiating a new program, which would necessarily have to experience the growing pains which Conserver House has weathered. These points lend to the recommendations in Section VII below.

VI. CONCLUSIONS

In summary, it can be said that the Conserver House project succeeded in popularizing the energy conservation message in Fredericton and, to a degree, beyond. It also succeeded in debunking the myths that surround conservation, particularly in the minds of those who associate conservation with sacrifice. This demonstration project enhanced not only the public familiarity with the concepts being promoted, but also the ability of the professional and commercial communities to respond to the growing demand for such services.

What was obvious throughout the contract period, however, is that the demand on staff time by the public severely restricted the opportunity for research and for the development of more in-depth programs. We can conclude from this that the project was understaffed, with time constraints hampering the efforts to reach the audience beyond Fredericton, which remains virtually unserviced. It was overly optimistic to expect that one demonstration house and two information officers could serve much more than the local area. The inability of Conserver House to meet much of the initial expectation for outreach beyond Fredericton is so justified.

Visitation rates, phone calls, participation in workshops and seminars, and use of the energy library all point solidly towards the need for this type of service to continue in Fredericton, and to be established in each of the major population centers in the province. Drawing on the expertise and experiences of Conserver House, replicating the project would be much easier and more cost-effective. With a network of such Houses throughout the province, reductions in overall energy requirements in the provincial housing stock, both existing and new, would be much more obvious and measurable than may be apparent in Fredericton at the present time.

VII. RECOMMENDATIONS

1. A comprehensive program should be developed to evaluate the impact Conserver House has had in the Fredericton region. This would provide a concrete basis on which to build, both in terms of expanding present programs, or initiating new ones in other areas of the province.

2. The Conserver House project should continue to offer the level of service it has developed in the greater Fredericton area. Because this audience is becoming more sophisticated in its understanding of conservation issues, the potential to develop programs for specific audiences, such as builders or low income homeowners, is great.

3. Studies have shown that the most effective means of motivating individuals to take action in their own homes is by demonstrating conservation techniques, and providing a permanent, local information service. As well, the advantages of doing this through a non-governmental organization, with no vested interest, has been proven time and again at existing centers in Canada. Therefore, developing a network of demonstration projects such as Conserver House throughout the province should be a priority if government is serious about promoting home energy conservation. They could be run by existing service organizations or environmental groups, or non-profit organizations, could be created specifically for the purpose of administering the project.

4. A primary component of projects such as Conserver House should be a vigorous consumer protection program which would allow for research and advocacy in this area.